REMARKS

At the outset, Applicants note with appreciation the Examiner's indication that claims 13-20 and 29-37 are allowed and his indication of allowable subject matter with respect to dependent claims 2-8, 10-12, 22-24 and 26-28. It is to be noted, however, that dependent claims 10-12 and 26-28 each depend either directly or indirectly from one of allowed independent claims 13 and 29. Hence, it is believed that claims 10-12 and 26-28 should have been indicated as being allowed, if for no other reason than their respective dependence from an allowed parent claim. Applicants therefore request that the objection to claims 10-12 and 26-28 be withdrawn.

Claims 1-8, 10-24 and 26-40 currently are pending. In view of the above amendments and the remarks that follow, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims.

By way of the above amendments, claims 1 and 21 have been amended. Claim 1 has been amended to recite that the comparison circuit operates to *receive the reference clock signal* and compare a phase of the reference clock signal with a phase of a signal having a frequency that is twice that of the comparison signal. In claim 21, the step of generating has been amended to recite: "generating the phase difference signal by *directly* comparing a phase of the reference clock signal with a phase of a signal having a frequency that is twice that of the comparison signal." Support for these amendments can be found throughout the originally filed disclosure, for example, in page 10, line 14 to page 13, line 16 of the specification, and in Figures 5-8.

The Office Action includes a rejection of claims 1 and 21 under Section 102(e) as allegedly being anticipated by U.S. Patent No. 5,710,256 to Nauta et al. This rejection is respectfully traversed insofar as the Office may consider it to apply to amended claims 1 and 21.

Amended claim 1 is directed to a phase detector that comprises, *inter alia*, a first input that receives *a reference clock signal*, a comparison circuit that *receives the reference clock signal* and compares a phase of *the reference clock signal* with a phase of a signal having a frequency that is twice that of the comparison signal. The Office Action asserts that Figure

10 of Nauta et al. shows a subtractor 18 that compares a phase of a first combination signal (i.e., combination signal *e1*) with a phase of a second combination signal (i.e., combination signal *e2*). The subtractor 18 of Nauta et al., however, does not operate to receive the reference clock signal *r*. Rather, the subtractor 18 receives the combination signals *e1* and *e2* (neither of which are the reference clock signal *r*) and subtracts the first combination signal *e1* from the second combination signal *e2*. (See Figures 4 and 10; and column 5, lines 45-47.) Furthermore, the signals *e1* and *e2* appear to have the same frequency. (See, e.g., Figure 4.) Hence, it is respectfully submitted that Nauta et al. does not disclose a phase detector comprising a first input that receives *a reference clock signal*, and a comparison circuit that *receives a reference clock signal* and compares a phase of *the reference clock signal* with a phase of a signal having a frequency that is twice that of the comparison signal, as set forth in claim 1.

Similar distinctions are brought out in amended claim 21, which is directed to a method of generating a phase difference signal. For instance, claim 21 recites a step of "generating the phase difference signal by *directly* comparing a phase of the reference clock signal with a phase of a signal having a frequency that is twice that of the comparison signal." As noted above, the subtractor 18 of Nauta et al. subtracts the first combination signal *e1* from the second combination signal *e2*, and neither of the combination signals *e1* and *e2* are reference clock signals. Additionally, combination signal *e1* appears to have the same frequency as that of signal *e2*. It is respectfully submitted, therefore, that the Nauta et al. patent does not disclose the combination of features including the step of "generating the phase difference signal by *directly* comparing a phase of *the reference clock signal* with a phase of a signal *having a frequency that is twice that of the comparison signal*," as recited in amended claim 21.

For at least these reasons, it is respectfully submitted that the Nauta et al. patent fails to disclose the claimed combinations of features respectively recited in amended claims 1 and 21. Accordingly, Nauta et al. fails to anticipate these claims. Applicants respectfully request, therefore, that the Examiner withdraw the rejection under Section 102.

The application is believed to be in condition for allowance, and prompt notice of the same is earnestly solicited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: April 1, 2004

By: _____
John F. Guay
Registration No. 47,248

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620